

## SEQUENCE LISTING

<110> E. I. du Pont de Nemours and Company  
<110> Butler, Karla  
Falco, Carl  
Famodu, Omolayo O.  
Fang, Yiwen  
Han, Feng  
Heppard, Elmer  
Liu, Zhan-Bin  
Miao, Gou-Hau  
Odell, Joan  
Rafalski, Antoni

<120> Disease Resistance Factors

<130> BB1252 US NA1

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<150> 60/107,242

<151> 1998-11-05

<150> US99/25,953

<151> 1999-10-04

<120> Disease Resistance Factors

<160> 17

<170> Microsoft Office 97

<210> 1

<211> 520

<212> DNA

<213> Zea mays

<220>

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 ctcttcaagg gncgcgctgg ccnggggggc aancagaatc 520

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 <212> PRT  
 <213> Zea mays

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                     20                    25                    30  
  
 Val His Tyr Ala Val Gln His Cys Gly Arg Asp Val Val Lys Ala Leu  
                     35                    40                    45  
  
 Leu Glu Leu Gly Ala Ala Asp Val Asn Ser Arg  
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<210> 3  
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 <212> DNA  
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caggttcaac gtgcagcaaa tgtacgcggc gtgggcgttc aagatcacccg agctcatctc 180
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aattgcaaga tcaaattcttg ataatgtatc gttggataag gaacttcctc cagaagttgc 360
tgttcagata aaagagattc gccaaaaatc tcagccaaat gagggtgaca ccgtcatttc 420
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<210> 4
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<212> PRT
<213> Oryza sativa

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          20              25              30
Asp Ser Cys Pro Pro Ala Ile Arg Phe Asn Val Glu Gln Met Tyr Ala
          35              40              45
Ala Trp Ala Phe Lys Ile Thr Glu Leu Ile Ser Leu Phe Gln Arg Arg
 50              55              60
Leu Leu Asn Phe Val Asp Lys Thr Leu Val Glu Asp Val Leu Pro Ile
 65              70              75              80
Leu Gln Val Ala

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<210> 5
<211> 642
<212> DNA
<213> Triticum aestivum

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<222> (26)

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 atgaaactaa gctacctgga aaacagagtc gcgttcgcaa gactgttctt ccctgctgaa 180  
 gccaaagggtg ccatgcaa atgcacaagca gacgtcacac cagaagttgg tggtttttct 240  
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 aaacaaaagg ctgcgttcaa nggtggatgc actangcgaa aacagtggaa ctgggccgctc 360  
 ggtacttccc aaactgctcg caagtgtcg acaaattctt ggnagatngc ctgcctgatn 420  
 gccttgatcg ttcaacacaa acggcaccct gatgaacaac aggtgaagaa atcnccttctc 480  
 aagtgaacga tgacttcnca aacatcanan agaacgggag ataaagattt ttcggccgctc 540  
 taaatcctcg tctcgggata agnangggat tacagtgttc canagcaggc aaaggtcctg 600  
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<212> PRT  
 <213> Triticum aestivum

<220>  
 <221> UNSURE  
 <222> (9)

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 20 25 30  
 Pro Leu Leu Ala Asp Asp Leu His Met Lys Leu Ser Tyr Leu Glu Asn  
 35 40 45  
 Arg Val Ala Phe Ala Arg Leu Phe Phe Pro Ala Glu  
 50 55 60

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 <211> 1227  
 <212> DNA  
 <213> Zea mays

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 tgttgagctt gtgaagttgc ttcttaatga gtccgacatc acattagatg atgccaacgc 180  
 attacactat gctgcttctt actgtgatcc taaagttgtc tcagagctgt tagatttggc 240  
 aatggctaac ttaaatttga agaatagccg tgggtacaca gcaactccact tggctgctat 300  
 gaggagagaa ccagctataa tcatgtgtct ccttaacaaa ggggcaaatg tgtcacaact 360  
 gacagctgat ggcaggagcg caattggtat ttgtcggagg ttaacaagag caaaagacta 420  
 caatacaaaag atggagcagg gtcaagaatc aaataaagat aggtctgtgt tagatattct 480  
 agagagggag atgatgcgga atcctatggc ggtggaagat gccgtcacct cgcctttgtt 540  
 ggcagatgat cttcacatga agcttctcta cctggaaaac agagttgcat ttgctagatt 600  
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 attcggcggt atagttgcag ttgcagcaag cacttctggt aaactgaggg aggtggacct 720  
 taatgagacg ccagtgcac aaaacaaaag gctccgttca agggtagatg cactgatgaa 780  
 aacagtggag ctgggcccgc ggtacttccc gaactgctcg caggtgctgg acaagttcct 840  
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 gcagaaggtg aagaggatgc gcttctgcga gctgaaagag gacgtgctga aggcgttttag 960  
 caaggacaag gcggagggca gcgtgttctc gggcctgtcc tcgtcgtcgt cgtgctcgcc 1020  
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 caccgtgcaa aaagatgaaa aaaaaaa 1227

<210> 8  
 <211> 325  
 <212> PRT  
 <213> Zea mays

<400> 8  
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 20 25 30

Leu Asp Asp Ala Asn Ala Leu His Tyr Ala Ala Ser Tyr Cys Asp Pro  
 35 40 45  
 Lys Val Val Ser Glu Leu Leu Asp Leu Ala Met ala Asn Leu Asn Leu  
 50 55 60  
 Lys Asn Ser Arg Gly Tyr Thr Ala Leu His Leu Ala Ala Met Arg Arg  
 65 70 75 80  
 Glu Pro Ala Ile Ile Met Cys Leu Leu Asn Lys Gly Ala Asn Val Ser  
 85 90 95  
 Gln Leu Thr Ala Asp Gly Arg Ser Ala Ile Gly Ile Cys Arg Arg Leu  
 100 105 110  
 Thr Arg Ala Lys Asp Tyr Asn Thr Lys Met Glu Gln Gly Gln Glu Ser  
 115 120 125  
 Asn Lys Asp Arg Leu Cys Ile Asp Ile Leu Glu Arg Glu Met Met Arg  
 130 135 140  
 Asn Pro Met Ala Val Glu Asp Ala Val Thr Ser Pro Leu Leu Ala Asp  
 145 150 155 160  
 Asp Leu His Met Lys Leu Leu Tyr Leu Glu Asn Arg Val Ala Phe Ala  
 165 170 175  
 Arg Leu Phe Phe Pro Ala Glu Ala Lys Val Ala Met Gln Ile Ala Gln  
 180 185 190  
 Ala Asp Thr Thr Glu Glu Phe Gly Gly Ile Val Ala Val Ala Ala Ser  
 195 200 205  
 Thr Ser Gly Lys Leu Arg Glu Val Asp Leu Asn Glu Thr Pro Val Thr  
 210 215 220  
 Gln Asn Lys Arg Leu Arg Ser Arg Val Asp Ala Leu Met Lys Thr Val  
 225 230 235 240  
 Glu Leu Gly Arg Arg Tyr Phe Pro Asn Cys Ser Gln Val Leu Asp Lys  
 245 250 255  
 Phe Leu Glu Asp Asp Leu Pro Glu Gly Leu Asp Gln Phe Tyr Leu Gln  
 260 265 270  
 Arg Gly Thr Ala Asp Glu Gln Lys Val Lys Arg Met Arg Phe Cys Glu  
 275 280 285  
 Leu Lys Glu Asp Val Leu Lys Ala Phe Ser Lys Asp Lys Ala Glu Gly  
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<210> 9

<211> 2194

<212> DNA  
<213> Oryza sativa

<400> 9

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<210> 10  
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<212> PRT  
<213> Oryza sativa

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          20             25             30

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 35             40             45

Glu Asp Phe Ala Phe Leu Ala Asp Ala Arg Ile Ala Val Pro Gly Gly
 50             55             60

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Val Thr Glu Glu Gly Lys Pro Ser Pro Lys Asp Arg Leu Cys Ile Glu  
385 390 395 400

Ile Leu Glu Gln Ala Glu Arg Arg Asp Pro Gln Leu Gly Glu Ala Ser  
405 410 415

Val Ser Leu Ala Met Ala Gly Glu Ser Leu Arg Gly Arg Leu Leu Tyr  
420 425 430

Leu Glu Asn Arg Val Ala Leu Ala Arg Ile Met Phe Pro Met Glu Ala  
435 440 445

Arg Val Ala Met Asp Ile Ala Gln Val Asp Gly Thr Leu Glu Phe Asn  
450 455 460

Leu Gly Ser Gly Ala Asn Pro Pro Pro Glu Arg Gln Arg Thr Thr Val  
465 470 475 480

Asp Leu Asn Glu Ser Pro Phe Ile Met Lys Glu Glu His Leu Ala Arg  
485 490 495

Met Thr Ala Leu Ser Lys Thr Val Glu Leu Gly Lys Arg Phe Phe Pro  
500 505 510

Arg Cys Ser Asn Val Leu Asp Lys Ile Met Asp Asp Glu Thr Asp Pro  
515 520 525

Val Ser Leu Gly Arg Asp Thr Ser Ala Glu Lys Arg Lys Arg Phe His  
530 535 540

Asp Leu Gln Asp Val Leu Gln Lys Ala Phe His Glu Asp Lys Glu Glu  
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<212> DNA  
<213> Oryza sativa

<220>  
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<222> (65)

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<210> 12  
 <211> 455  
 <212> PRT  
 <213> *Oryza sativa*

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                     20                    25                    30  
 Asp Ser Cys Pro Pro Ala Ile Arg Phe Asn Val Glu Gln Met Tyr Ala  
             35                    40                    45  
 Ala Trp Ala Phe Lys Ile Thr Glu Leu Ile Ser Leu Phe Gln Arg Arg  
     50                    55                    60  
 Leu Leu Asn Phe Val Asp Lys Thr Leu Val Glu Asp Val Leu Pro Ile  
     65                    70                    75                    80  
 Leu Gln Val Ala Phe His Ser Glu Leu Thr Pro Val Leu Glu Lys Cys  
             85                    90                    95  
 Ile Arg Arg Ile Ala Arg Ser Asn Leu Asp Asn Val Ser Leu Asp Lys  
             100                    105                    110  
 Glu Leu Pro Pro Glu Val Ala Val Gln Ile Lys Glu Ile Arg Gln Lys  
     115                    120                    125  
 Ser Gln Pro Asn Glu Gly Asp Thr Val Ile Ser Asp Pro Val His Glu  
     130                    135                    140  
 Lys Arg Val Arg Arg Ile His Arg Ala Leu Asp Ser Asp Asp Val Glu  
     145                    150                    155                    160

Leu	Val	Lys	Leu	Leu	Leu	Asn	Glu	Ser	Glu	Ile	Thr	Leu	Asp	Asp	Ala	
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Asn	Ala	Leu	His	Tyr	Ala	Ala	Ala	Tyr	Cys	Asp	Ser	Lys	Val	Val	Ser	
		180						185					190			
Glu	Leu	Leu	Asp	Leu	Arg	Leu	Ala	Asn	Leu	Asn	Leu	Lys	Asn	Ser	Arg	
		195					200					205				
Gly	Tyr	Thr	Ala	Leu	His	Leu	Ala	Ala	Met	Arg	Arg	Glu	Pro	Ala	Ile	
	210					215					220					
Ile	Met	Cys	Leu	Leu	Asn	Lys	Gly	Ala	Ala	Val	Ser	Gln	Leu	Thr	Ala	
225					230					235					240	
Asp	Gly	Gln	Ser	Ala	Met	Ser	Ile	Cys	Arg	Arg	Leu	Thr	Arg	Met	Lys	
				245					250					255		
Asp	Tyr	Asn	Thr	Lys	Met	Glu	Gln	Gly	Gln	Glu	Ser	Asn	Lys	Asp	Arg	
			260					265					270			
Leu	Cys	Ile	Asp	Ile	Leu	Asp	Arg	Glu	Met	Ile	Arg	Lys	Pro	Met	Ala	
		275					280					285				
Val	Glu	Asp	Ser	Val	Thr	Ser	Pro	Leu	Leu	Ala	Asp	Asp	Leu	His	Met	
	290					295					300					
Lys	Leu	Leu	Tyr	Leu	Glu	Asn	Arg	Val	Ala	Phe	Ala	Arg	Leu	Phe	Phe	
305					310					315					320	
Pro	Ala	Glu	Ala	Lys	Val	Ala	Met	Gln	Ile	Ala	Gln	Ala	Asp	Thr	Thr	
				325					330					335		
Pro	Glu	Phe	Gly	Ile	Val	Pro	Ala	Ala	Ser	Thr	Ser	Gly	Lys	Leu	Lys	
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Phe	Pro	Asn	Cys	Ser	Gln	Val	Leu	Asp	Lys	Phe	Leu	Glu	Asp	Asp	Leu	
385					390					395					400	
Pro	Asp	Ser	Pro	Asp	Ala	Leu	Asp	Leu	Gln	Asn	Gly	Thr	Ser	Asp	Glu	
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Gln	Asn	Val	Lys	Arg	Met	Arg	Phe	Cys	Glu	Leu	Lys	Glu	Asp	Val	Arg	
			420					425					430			
Lys	Ala	Phe	Ser	Lys	Asp	Arg	Ala	Asp	Asn	Ser	Met	Phe	Ser	Ile	Leu	
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<212> DNA  
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<400> 13

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Ser Pro Leu Leu Ala Asp Asp Leu His Met Lys Leu Ser Tyr Leu Glu
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Asn Arg Val Ala Phe Ala Arg Leu Phe Phe Pro Ala Glu Ala Lys Val
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Ala Met Gln Ile Ala Gln Ala Asp Val Thr Pro Glu Val Gly Gly Phe
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Ser Ala Ala Ser Thr Ser Gly Lys Leu Arg Glu Val Asp Leu Asn Glu
          85                      90                      95

Thr Pro Val Thr Lys Asn Lys Arg Leu Arg Ser Arg Val Asp Ala Leu
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Ala Lys Thr Val Glu Leu Gly Arg Arg Tyr Phe Pro Asn Cys Ser Gln
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Val Leu Asp Lys Phe Leu Glu Asp Gly Leu Pro Asp Gly Leu Asp Ala
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Phe Gln Gln Gln Ser Gly Thr Pro Asp Glu Gln Gln Val Lys Lys Met
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<212> DNA

<213> Oryza sativa

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<213> Oryza sativa

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Gln Ala Ala Pro Val Ala Ala Gly Glu Gly Gly Gly Gly Gly Gly Gly  
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Gly Gly Gly Gly Gly Ser Ser Ser Val Glu Val Val Ser Leu Asn Arg  
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Leu Ser Ala Asn Leu Glu Arg Leu Leu Leu Asp Ser Asp Leu Asp Cys  
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Ser Asp Ala Asp Val Asp Val Ala Asp Gly Gly Pro Pro Val Pro Val  
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His Arg Cys Ile Leu Ala Ala Arg Ser Thr Phe Phe Tyr Asn Leu Phe  
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Ala Ala Arg Gly Arg Gly Gly Asp Gly Ala Ala Gly Gly Gly Gly Gly  
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Gly Gly Gly Gly Gly Gly Glu Arg Thr Gly Gly Arg Pro Arg Tyr Lys  
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Ser Leu Leu Gly Tyr Leu Tyr Thr Gly Lys Leu Arg Pro Ala Pro Asp  
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Asp Val Val Ser Cys Ala Asp Pro Met Cys Pro His Asp Ser Cys Pro  
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Pro Ala Ile Arg Phe Asn Val Glu Gln Met Tyr Ala Ala Trp Ala Phe  
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Lys Ile Thr Glu Leu Ile Ser Leu Phe Gln Arg Arg Leu Leu Asn Phe  
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Val Asp Lys Thr Leu Val Glu Asp Val Leu Pro Ile Leu Gln Val Ala  
 245 250 255

Phe His Ser Glu Leu Thr Pro Val Leu Glu Lys Cys Ile Arg Arg Ile  
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			260					265					270			
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Asp	Val	Asn	His	Arg	Asn	Pro	Arg	Gly	Tyr	Thr	Val	Leu	His	Val	Ala	
				325					330					335		
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			340					345					350			
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Cys	Lys	His	Ser	Leu	Lys	Gly	Arg	Leu	Cys	Val	Glu	Ile	Leu	Glu	Gln	
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Glu	Asp	Lys	Arg	Glu	Gln	Ile	Pro	Arg	Asp	Val	Pro	Pro	Ser	Phe	Ala	
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Val	Ala	Ala	Asp	Glu	Leu	Lys	Met	Thr	Leu	Leu	Asp	Leu	Glu	Asn	Arg	
			420					425					430			
Val	Ala	Leu	Ala	Gln	Arg	Leu	Phe	Pro	Thr	Glu	Ala	Gln	Ala	Ala	Met	
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Ile	Ala	Pro	Phe	Arg	Ile	Leu	Glu	Glu	His	Gln	Ser	Arg	Leu	Lys	Ala	
				485					490					495		
Leu	Ser	Lys	Thr	Val	Glu	Leu	Gly	Lys	Arg	Phe	Phe	Pro	Arg	Cys	Ser	
			500					505					510			
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Tyr	Met	Glu	Ile	Gln	Glu	Thr	Leu	Lys	Lys	Ala	Phe	Ser	Glu	Asp	Asn	
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Lys Ser Thr Gly Gly Lys Arg Ser Asn Arg Lys Leu Ser His Arg Arg  
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Arg

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